GLOBAL SKIN HEALTH

# EMERGING DERMATITIS FROM MESOSTIGMATIC MITES (ARACHNIDS: ACARI) IN ITALIAN URBAN SETTLEMENTS

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Background: Urban areas provide a suitable environment for zoonotic parasites that feed on pets and synanthropic animals. Among them, the avian mites Dermanyssus gallinae, Ornithonyssus sylviarum and O. bursa, and the tropical rat-mite O. bacoti (Acari: Mesostigmata) play a special role in dermatology. They are non-burrowing, blood-sucking, millimetric ectoparasites, whose reservoirs are bird/rodent nests. In the lack of their natural hosts, they intrude into dwellings and parasitize their inhabitants. Their bites cause fairly aspecific skin manifestations, which are easily misdiagnosed, resulting in long lasting annoyance for the patients.
Objective, Materials and Methods: In order to investigate the relationship between these arthropods and their human hosts, we have studied the outbreaks of mite-bite related dermatitis occurred in the last 20 years in southern and peninsular/insular Italy, examining the mites through transmission light microscopy and/or scanning electron microscopy.

Results: The dermatitis would arise in spring/summer and was characterized by long-lasting, relapsing eruptions of pruritic urticarial papules, most of which showed a red puncture mark. The parasites were collected from the patients' environment, and/or from their skin, or were delivered to our laboratory by the patients themselves. The mites were identified as D. gallinae, O. sylviarum, O. bursa, and O. bacoti, and their sources were abandoned bird nests/pet-canaries/ household poultry/ laboratory holdings and rat colonies. Disinfestation and sanitation achieved stable recovery.

Conclusions: Urban dermatitis from zoonotic Metastigmata mites is a worldwide ever growing, albeit neglected problem. The diagnosis of its, sometimes severe, manifestations may be missed without adequate clinical suspicion and biologic/taxonomic knowledge. Mesostigmata are ostensibly potential vectors of infectious diseases, including bartonellosis, Lyme disease and Q fever. Our study demonstrates O. sylviarum, O. bursa and O. bacoti as new agents of human mite dermatitis in Italy and indicates synanthropic

birds/rodents as the leading actors in an urban cycle that perpetuates the disease.